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10/692,827	10/24/2003	Baiyi Zhao	2002B130A/2	9211

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EXAMINER

PASTERCZYK, JAMES W

ART UNIT	PAPER NUMBER
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1755

DATE MAILED: 08/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/692,827	Applicant(s) ZHAO ET AL.	
	Examiner J. Pasterczyk	Art Unit 1755	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) 21-26, 32-35 and 41 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20, 27-31 and 36-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-41 are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

1. This Office action is in response to the RCE filed 6/29/06 requesting entry of the after final amendment filed 6/7/06. Claims 21-26 and 32-35 remain withdrawn due to an earlier restriction requirement.

2. Newly submitted claim 41 is directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: it is drawn to a specific compound rather than a catalyst with cocatalyst.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claim 41 is withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

3. The abstract of the disclosure is objected to because it can easily accommodate the preferred structure of the catalyst without exceeding the length limitations for an abstract. Correction is required. See MPEP § 608.01(b).

4. Claims 1-20, 27, 29-31 and 36-40 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, third bullet of (a)(ii), delete “between” in the second line and change “and” to --to-- in the third line.

In claim 9, the last two lines are confusing; perhaps --hydrocarbyl radicals, or hydrocarbyl substituted organometalloid radicals.-- is what is intended here.

In claim 10, having a 3 membered ring would appear to be too strained to exist, and it is not clear if the 3-50 includes non-ring atoms. Claims 29-31 have the same problems.

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In claim 13, the groups from “methoxy” to the end are inconsistent with claim 9 which only permits organometalloids, not main group elements.

In claim 16 insert --of-- after “catalyst system”.

In claim 19, the variables A and E being other than hydrogen or carbon is inconsistent with the recitation of claim 2 which requires the bridge be only hydrocarbonyl. Claim 20 has the same problem.

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1, 2, 5-8, 11, 12, 15 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Sumi et al., USP 6,323,353 (hereafter referred to as Sumi).

Sumi discloses the invention as claimed when one construes the term “activator” of the present claims broadly (col. 2, l. 56 to col. 3, l. 50; col. 4, l. 5, l. 50; col. 10, l. 20; col. 16, l. 66 to col. 17, l. 61; examples 14 and 15).

7. Claims 1, 2, 5-8, 11, 12 and 14-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Buchwald et al., USP 6,307,087 (hereafter referred to as Buchwald).

Buchwald discloses the invention as claimed when one construes the term “activator” broadly (col. 7, l. 5-44; col. 9, l. 1-42; col. 25, l. 63; col. 31, l. 40 to col. 32, l. 32; col. 33, l. 56 to col. 34, l. 16).

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8. Claims 1, 2, 5-8, 11, 12 and 14-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Zhang et al., USP 6,525,210 (hereafter referred to as Zhang).

Zhang discloses the invention as claimed when the term “activator” is read broadly (col. 3, l. 25-45; col. 10, l. 20-65; col. 11, l. 1-55; col. 17, l. 60; col. 21, l. 7-25, l. 51-62).

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-8, 11, 12, 15, 16 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sumi as cited above.

The disclosure of Sumi has been discussed above.

Sumi lacks disclosure of prepolymerizing its catalyst, the use of a second catalyst in its composition, or the use of a support.

However, each of these modifications would have been conventional to the routineer in the art to make with only minor experimentation.

It would have been obvious to one of ordinary skill in the art to apply that skill to the disclosure of Sumi with a reasonable expectation of obtaining a highly-useful catalyst with the expected benefit of the catalyst being usable in slurry phase polymerization processes.

11. Claims 1-8, 11, 12, 14-18 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buchwald as cited above.

The disclosure of Buchwald has been discussed above.

Buchwald lacks disclosure of prepolymerizing its catalyst, the use of a second catalyst in its composition, or the use of a support.

However, each of these modifications would have been conventional to the routineer in the art to make with only minor experimentation.

It would have been obvious to one of ordinary skill in the art to apply that skill to the disclosure of Buchwald with a reasonable expectation of obtaining a highly-useful catalyst with the expected benefit of the catalyst being usable in slurry phase polymerization processes.

12. Claims 1-8, 11, 12, 14-18 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhang as cited above.

The disclosure of Zhang has been discussed above.

Zhang lacks disclosure of prepolymerizing its catalyst, the use of a second catalyst in its composition, or the use of a support.

However, each of these modifications would have been conventional to the routineer in the art to make with only minor experimentation.

It would have been obvious to one of ordinary skill in the art to apply that skill to the disclosure of Zhang with a reasonable expectation of obtaining a highly-useful catalyst with the expected benefit of the catalyst being usable in slurry phase polymerization processes.

13. Claims 1-20, 27-31 and 36-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over any of Sumi, Buchwald, or Zhang as cited above in view of Yorisue, JP-09-255713 (hereafter referred to as Yorisue).

The disclosures of the primary references have been discussed above.

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None of the primary references discloses the use of alkyl aluminum or alumoxane compounds as the cocatalysts for their catalysts.

However, Yorisue teaches that such a cocatalyst is conventional in catalysts having a similar structure to those of the primary references when used to polymerize olefins (abstract).

It would have been obvious to one of ordinary skill in the art to apply the teaching of Yorisue to the disclosures of any of the primary references with a reasonable expectation of obtaining a highly-useful olefin polymerization catalyst with the expected benefit of the polymer having a high molecular weight with low polydispersity.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. Pasterczyk whose telephone number is 571-272-1375. The examiner can normally be reached on M-F from 9 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo, can be reached at 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


J. Pasterczyk

8/10/06


J.A. LORENGO
SUPERVISORY PATENT EXAMINER